

SEQUENCE LISTING

<110> Agriculture and Agri-Food Canada; The University of Saskatchewan

<120> Cyclin Dependant Kinase Inhibitors as Plant Growth
Regulators

<130> 81601-3

<140>

<141>

<150> CA 2,256,121

<151> 1998-12-31

<160> 16

<170> PatentIn Ver. 2.0

<210> 1

<211> 904

<212> DNA

<213> Arabidopsis thaliana

<220>

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<222> (55)..(627)

<220>

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<400> 1

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gtg aga aaa tat aga aaa gct aaa gga att gta gaa gct gga gtt tcg      105
Val Arg Lys Tyr Arg Lys Ala Lys Gly Ile Val Glu Ala Gly Val Ser
           5                      10                      15

tca acg tat atg cag cta cgg agc cgg aga att gtt tat gtt aga tcg      153
Ser Thr Tyr Met Gln Leu Arg Ser Arg Arg Ile Val Tyr Val Arg Ser
           20                      25                      30

gaa aaa tca agc tct gtc tcc gtc gtc ggt gat aat gga gtt tcg tcg      201
Glu Lys Ser Ser Ser Val Ser Val Val Gly Asp Asn Gly Val Ser Ser
           35                      40                      45

tct tgt agt gga agc aat gaa tat aag aag aaa gaa tta ata cat ctg      249
Ser Cys Ser Gly Ser Asn Glu Tyr Lys Lys Lys Glu Leu Ile His Leu
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[illegible]

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Ser Glu Lys Ser Ser Ser Val Ser Val Val Gly Asp Asn Gly Val Ser
35 40 45
Ser Ser Cys Ser Gly Ser Asn Glu Tyr Lys Lys Lys Glu Leu Ile His
50 55 60

Leu Glu Glu Glu Asp Lys Asp Gly Asp Thr Glu Thr Ser Thr Tyr Arg
 65 70 75 80
 Arg Val Thr Lys Arg Lys Leu Phe Glu Asn Leu Arg Glu Glu Glu Lys
 85 90 95
 Glu Glu Leu Ser Lys Ser Met Glu Asn Tyr Ser Ser Glu Phe Glu Ser
 100 105 110
 Ala Val Lys Glu Ser Leu Asp Cys Cys Cys Ser Gly Arg Lys Thr Met
 115 120 125
 Glu Glu Thr Val Thr Ala Glu Glu Glu Lys Ala Lys Leu Met Thr
 130 135 140
 Glu Met Pro Thr Glu Ser Glu Ile Glu Asp Phe Phe Val Glu Ala Glu
 145 150 155 160
 Lys Gln Leu Lys Glu Lys Phe Lys Lys Lys Tyr Asn Phe Asp Phe Glu
 165 170 175
 Lys Glu Lys Pro Leu Glu Gly Arg Tyr Glu Trp Val Lys Leu Glu
 180 185 190

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 aagaaagaat taatacatct ggaggaggaa gataaagatg gtgacactga aacgtcgcacg 180
 tatcgacggg gtacgaagag gaagcttttt gaaaatctga gagaggagga gaaagaagaa 240
 ttaagtaa atccatggagaa ttattcatcg gaatttgaat cggcgggtta agaatcgta 300
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 aaggcgaaat tgatgacgga gatgccaacg gaatcgaaa ttgaagattt ttttgtggaa 420
 gctgagaaac aactcaaaga aaaattcaag aagaagtaca atttcgattt cgagaaggag 480
 aagccattag aaggacgtta cgaatgggta aagttagagt gaagaagaag aagaagttta 540
 tggttttttt tttaactttt tagattttta tatttcaggg aataagttta ttttattttg 600
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<210> 4
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 ggaggagaag gcgaaattga tgacggagat gccaacggaa tcggaaattg aagatttttt 240
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 gaaggagaag ccattagaag gacggttacga atgggtaaag ttagagtga gaagaagaag 360
 aagtttatgg tttttttttt aacttttttag attttaatat ttcagggaat aagttaattt 420
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 gtagattgt tgttgtagcg ggaggaaaac gatggaggag gaggaggaga aggcgaaatt 180
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 cctccggttg aagaacagtg tcaaatacga gaagaagatt cgtcggtttc gtgttggtct 180
 acatcgaag agaaatacga acggagaatc gaattttag atcttgagga aaataacggt 240
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 atgaacatgg attcttcttc ggtggctgtt gaagatgtag agtctcgccg caggtaag 360
 aagagtctcc atgagacggt gaaggaaagct gagttagaag acttttttca ggtggcggag 420
 aaagatcttc ggaataagtt gttggaatgt tctatgaagt ataacttcga tttcgagaaa 480
 gatgagccac ttggtggagg aagatacgag tgggttaaatt tgaatccatg aagaagacga 540

Lys Lys Lys Gln Arg Glu Arg Ala His Lys Asn Pro Arg Glu Lys Lys
1 5 10 15

Met Ser Glu Arg Lys Arg Glu Leu Ala Glu Glu Ala Ser Ser Thr Ser
20 25 30

Phe Ser Pro Leu Lys Lys Thr Lys Leu Asn Asp Ser Ser Asp Ser Ser
35 40 45

Pro Asp Ser His Asp Val Ile Val Phe Ala Val Ser Ser Ser Ser Val
50 55 60

Ala Ser Ser Ala Ala Leu Ala Ser Asp Glu Cys Ser Val Thr Ile Gly
65 70 75 80

Gly Glu Glu Ser Asp Gln Ser Ser Ser Ile Ser Ser Gly Cys Phe Thr
85 90 95

Ser Glu Ser Lys Glu Ile Ala Lys Asn Ser Ser Ser Phe Gly Val Asp
100 105 110

Leu Glu Asp His Gln Ile Glu Thr Glu Thr Glu Thr Ser Thr Phe Ile
115 120 125

Thr Ser Asn Phe Arg Lys Glu Thr Ser Pro Val Ser Glu Gly Leu Gly
130 135 140

Glu Thr Thr Thr Glu Met Glu Ser Ser Ser Ala Thr Lys Arg Lys Gln
145 150 155 160

Pro Gly Val Arg Lys Thr Pro Thr Ala Ala Glu Ile Glu Asp Leu Phe
165 170 175

Ser Glu Leu Glu Ser Gln Asp Asp Lys Lys Lys Gln Phe Ile Glu Lys
180 185 190

Tyr Asn Phe Asp Ile Val Asn Asp Glu Pro Leu Glu Gly Arg Tyr Lys
195 200 205

Trp Asp Arg Leu
210

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<210> 13
<211> 208
<212> PRT
<213> Arabidopsis thaliana
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Lys Pro Lys Arg Asp Ser Glu Tyr Glu Gly Ser Asn Ile Lys Arg Met
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Arg Leu Asp Asp Asp Asp Asp Val Leu Arg Ser Pro Thr Arg Thr Leu
35 40 45

Ser Ser Ser Ser Ser Ser Ser Leu Ala Tyr Ser Val Ser Asp Ser Gly
50 55 60

Gly Phe Cys Ser Val Ala Leu Ser Glu Glu Glu Asp Asp His Leu Ser
65 70 75 80

Ser Ser Ile Ser Ser Gly Cys Ser Ser Ser Glu Thr Asn Glu Ile Ala
85 90 95

Thr Arg Leu Pro Phe Ser Asp Leu Glu Ala His Glu Ile Ser Glu Thr
100 105 110

Glu Ile Ser Thr Leu Leu Thr Asn Asn Phe Arg Lys Gln Gly Ile Ser
115 120 125

Ser Ser Glu Asn Leu Gly Glu Thr Ala Glu Met Asp Ser Ala Thr Thr
130 135 140

Glu Met Arg Asp Gln Arg Lys Thr Glu Lys Lys Lys Lys Met Glu Lys
145 150 155 160

Ser Pro Thr Gln Ala Glu Leu Asp Asp Asp Phe Phe Ser Ala Ala Glu
165 170 175

Arg Tyr Glu Gln Lys Arg Phe Thr Glu Lys Tyr Asn Tyr Asp Ile Val
180 185 190

Asn Asp Thr Pro Leu Glu Gly Arg Tyr Gln Trp Val Ser Leu Lys Pro
195 200 205

<210> 14
<211> 137
<212> PRT
<213> Arabidopsis thaliana

<400> 14
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35 40 45

His Ser Thr Arg Glu Ser Thr Pro Cys Asn Phe Val Glu Asp Met Glu
50 55 60

Ile Met Val Thr Pro Gly Ser Ser Thr Arg Ser Met Cys Arg Ala Thr
65 70 75 80

Lys Glu Tyr Thr Arg Glu Gln Asp Asn Val Ile Pro Thr Thr Ser Glu
85 90 95

Met Glu Glu Phe Phe Ala Tyr Ala Glu Gln Gln Gln Gln Arg Leu Phe
 100 105 110

Met Glu Lys Tyr Asn Phe Asp Ile Val Asn Asp Ile Pro Leu Ser Gly
 115 120 125

Arg Tyr Glu Trp Val Gln Val Lys Pro
 130 135

<210> 15
 <211> 804
 <212> DNA
 <213> *Chenopodium rubrum*

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 tcgtataata ttcctcaact aagaagtcgt cgaaagaatt tgtcggcgcc ggagaatttc 180
 gccgaattag aaacgacgcc gttggaagtt gcggcggttg ttgaggagga agaggttgcg 240
 aattgctcga gtagcgaggt aattactaca gctaggtcgg attttccgcc gtcttggtgc 300
 tcaagcaatt atgatcagtt gagttctagc gagccagaag tagttaagga tgatgatggt 360
 ttgggaaatc gtacagcaga tccagaggtt gagagtgggt aggcgtcgtc aaagcaaaag 420
 gagagccata gaacagaagc gagagaagct acaaaattag acgaccagga ttatccggcg 480
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 gttgctgaaa aagatctcca gaaacgcttc agcgaaaagt acaatttcga catagttaag 600
 gacgtgccac tgaaaggtcg ttatgattgg gttccaataa atccatgaat aaaaccact 660
 ggtgatagtg atgatgatga atgactgaat tcttccacaa ttacgccaaa attagccact 720
 gaaattgcaa agtaaattct taatttttagc cttttctttc tttttagcag aagttgatct 780
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 <212> PRT
 <213> *Chenopodium rubrum*

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 20 25 30
 Lys Asn Leu Ser Ala Pro Glu Asn Phe Ala Glu Leu Glu Thr Thr Pro
 35 40 45

Leu Glu Val Ala Ala Val Val Glu Glu Glu Glu Val Ala Asn Cys Ser
 50 55 60
 Ser Ser Glu Val Ile Thr Thr Ala Arg Ser Asp Phe Pro Pro Ser Cys
 65 70 75 80
 Cys Ser Ser Asn Tyr Asp Gln Leu Ser Ser Ser Glu Pro Glu Val Val
 85 90 95
 Lys Asp Asp Asp Gly Leu Gly Asn Arg Thr Ala Asp Pro Glu Val Glu
 100 105 110
 Ser Gly Glu Ala Ser Ser Lys Gln Lys Glu Ser His Arg Thr Glu Ala
 115 120 125
 Arg Glu Ala Thr Lys Leu Asp Asp Gln Asp Tyr Pro Ala Thr Lys Ser
 130 135 140
 Thr Val Gln Ile Lys Met Pro Ser Asp Ser Glu Ile Glu Glu Phe Phe
 145 150 155 160
 Ala Val Ala Glu Lys Asp Leu Gln Lys Arg Phe Ser Glu Lys Tyr Asn
 165 170 175
 Phe Asp Ile Val Lys Asp Val Pro Leu Lys Gly Arg Tyr Asp Trp Val
 180 185 190
 Pro Ile Asn Pro
 195

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